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Benjamin J. Hauptman  
LOWE HAUPTMAN  
GILMAN & BERNER, LLP  
1700 Diagonal Road, Suite 310  
Alexandria, VA 22314

EXAMINER

ZACHARIA, RAMSEY E

ART UNIT

PAPER NUMBER

1773

DATE MAILED: 07/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/819,821

Applicant(s)

ROGER, MICHEL

Examiner

Ramsey Zacharia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 April 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 4-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \*   c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11 April 2003 has been entered.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Objections***

3. Applicant is advised that should claim 5 be found allowable, claim 11 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof since a rubber is the same thing as an elastomer. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Claim Rejections - 35 USC § 112***

4. Claims 1, 2, 4, 5, 11-17 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection. No support for the coating having a thickness of "a few tens of microns to 30 microns" could be found in the disclosure as originally filed. Note that the disclosure does support a coating having a thickness of between 10 and 35  $\mu\text{m}$  or a thickness of a few tens of microns (see page 5, lines 8-9).
5. Claims 6-10, 18, and 20-26 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection. No support for the coating having a thickness of "a few microns to 30 microns" could be found in the disclosure as originally filed. Note that the disclosure does support a coating having a thickness of between 10 and 35  $\mu\text{m}$  or a thickness of a few tens of microns (see page 5, lines 8-9).
6. Claims 27-33 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection. No support for the coatings having a thickness of "10 to 30 microns" could be found in the disclosure as originally filed.

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Note that the disclosure does support a coating having a thickness of between 10 and 35  $\mu\text{m}$  or a thickness of a few microns (see page 5, lines 8-9).

7. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 15 recites the limitation "said circumferential groove" in line 2. There is insufficient antecedent basis for this limitation in the claim. Note that claim 15 depends from claim 13 while the circumferential groove is first introduced in claim 14.

***Claim Rejections - 35 USC § 102***

9. Claims 1, 2, 4-6, 11, 17, 19, 20, 27-30, 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Plumley (U.S. Patent 5,507,320).

Plumley teaches an article that may be fuel hose or diaphragm for use in automobiles (column 1, lines 5-11). The article comprises a layer of Teflon wrap (i.e. polytetrafluoroethylene) having a thickness of 0.02-0.05 mm (i.e. 20-50 microns) (column 3, lines 19-20). The article also comprises a rubber layer and a plastic nylon layer (column 3, lines 31-41).

Plumley is silent with respect to the transmission rate of hydrocarbons through the article. However, the article is taken to inherently possess a transmission rate of not more than 2 g/24 hr, since the article comprises a polytetrafluoroethylene layer of the same thickness as the instant

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invention which is specifically designed to minimize emissions (see column 3, lines 20-30 and column 4, lines 40-48).

10. Claims 1, 2, 4-6, 11, 13, 18-20, 27-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Stevens (U.S. Patent 5,427,831).

Stevens teaches a laminate comprising a fluoropolymer layer having a thickness of 0.01-0.1 mm (i.e. 10-100 microns) and elastomeric layers (column 1, lines 28-43). Acrylonitrile butadiene rubber, i.e. nitrile rubber, is a preferred elastomer (column 1, lines 64-66). The laminate may be used to make fuel hoses and gaskets (column 3, lines 60-65). The fluoropolymer layer may comprise polytetrafluoroethylene (column 2, lines 33-41). Layers comprising polymer fibers, such as polyester or polyamide fibers which are plastics, may also be used (column 3, lines 21-33). The laminate is cured in a mold (column 4, lines 67-68).

Stevens is silent with respect to the transmission rate of hydrocarbons through the article. However, the article is taken to inherently possess a transmission rate of not more than 2 g/24 hr, since the article comprises a polytetrafluoroethylene layer of the same thickness as the instant invention which is specifically designed to minimize emissions.

***Claim Rejections - 35 USC § 103***

11. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens (U.S. Patent 5,427,831) in view of the Encyclopedia of Polymer Science and Engineering (Volume 3: Coating Methods).

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Stevens teaches a method of forming a fuel system part that meets all the limitations of claim 7, as outlined above, except for requiring that the fluoropolymer layer be applied by spraying. However, Stevens does form the laminate by applying the fluoropolymer layer as a coating over a rubber layer.

The Encyclopedia of Polymer Science and Engineering demonstrates that spraying methods are common and well known techniques for applying coatings having a thickness in the range of 10-100  $\mu\text{m}$  (see Table 1).

That is, the Encyclopedia of Polymer Science shows that spraying is known in the art as equivalent to other means for forming a coating. Therefore, one of ordinary skill in the art would have found it obvious to apply the fluoropolymer layer by any equivalent coating method, including spray coating.

12. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens (U.S. Patent 5,427,831) in view of the Encyclopedia of Polymer Science and Engineering (Volume 3: Coating Methods) as applied to claim 7 above, and further in view of Eguchi et al. (U.S. Patent 5,665,444).

Stevens taken in view of the Encyclopedia of Polymer Science and Engineering teach all the limitations of claim 13, as outlined above, except for teaching that the spray nozzle and the tube are giving relative rotational movement in addition to the translational movement that is assumed to occur since it is intended to coat the entire length of the tube.

Eguchi et al. is directed to a method for applying a coating to the inside of a tube (column 1, lines 8-15). The coating may be applied by spraying (column 9, lines 33-37). The spray

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nozzle may be rotated around its shaft (column 9, lines 41-47). Rotating the nozzle around its shaft, in combination with increasing the number of openings in the nozzle, allows the coating to be applied more uniformly.

One of ordinary skill in the art would be motivated to rotate the spray device in order to produce a more uniformly applied coating.

Therefore, the invention of claim 10 would have been obvious to one of ordinary skill in the art at the time the invention was made.

13. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens (U.S. Patent 5,427,831) in view of Alger (*Polymer Science Dictionary*, pages 335-336).

Stevens teaches a laminate comprising a layer of polytetrafluoroethylene and a layer of nitrile rubber for use as a fuel conduit, as outlined above.

Stevens does not teach that the nitrile rubber is nitrile PVC, i.e. a blend of nitrile rubber and polyvinyl chloride. However, the resulting material is used in applications where it will come in contact with fuel.

Alger discloses that it is known to blend PVC into nitrile rubber to improve the oil resistance of the rubber as well as improved resistance to weathering, abrasion, and ozone (nitrile rubber, page 336).

One of ordinary skill in the art would be motivated to add PVC to the nitrile rubber of Stevens, thereby formed nitrile PVC, to further improve the oil, abrasion, weathering, and ozone resistance of the resulting article.



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Therefore, the invention of claim 16 would have been obvious to one of ordinary skill in the art at the time the invention was made.

***Response to Arguments***

14. Applicant's arguments with respect to claims 1, 2, and 4-33 have been considered but are moot in view of the new ground(s) of rejection.

However, upon reconsideration and in view of the applicant's arguments, the term "polytetrafluoroethylene" is polymerized tetrafluoroethylene, i.e. PTFE, and not a copolymer that comprises tetrafluoroethylene in addition to other monomer units.

***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (703) 305-0503. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for non after-final correspondences and (703) 872-9311 for after-final correspondences.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, appearing to read 'Ramsey Zacharia', with a stylized flourish at the end.

Ramsey Zacharia

Primary Examiner

Technology Center 1700

7/7/03